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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,132	11/08/2001	Marion Griebel	13189.143	5818

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EXAMINER
LUU, THANH X

ART UNIT	PAPER NUMBER
2878	

DATE MAILED: 11/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/009,132	GRIEBEL, MARION	
	Examiner	Art Unit	
	Thanh X Luu	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133)
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 32002.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, "the object" lacks proper antecedent basis because Applicant uses the terms "the object" and "the sheet-like object" to refer to the same object. Further, it is unclear in its given context what "therefrom" refers to.

Regarding claims 2 and 3, "the time signal pattern of the signal representing the reflected radiation" lacks proper antecedent basis.

Regarding claim 2, the language "one or more previously determined time signal patterns" conflicts with the language "a plurality of previously determined time signal patterns" of claim 1.

Regarding claim 6, "the spectrum around the frequency", "the Doppler shift of the frequency of the radiation" and "comparisons" lacks proper antecedent basis. Further, since there is no second comparator, it is unclear how a third comparator exists.

Regarding claim 8, "the comparators" lacks proper antecedent basis.

Regarding claim 9, "the comparators" and "the conformity of the thicknesses determined by the comparators" lacks proper antecedent basis. Further, since there is no second or third comparator, it is unclear how a fourth comparator exists.

Regarding claim 15, "the number of media" lacks proper antecedent basis.

Regarding claim 17, it is unclear how an object moves (in claim 15) and yet the transmitting and receiving device is moving instead of the object. That is, the language of claim 17 conflicts with claim 15.

The other claims are indefinite by virtue of their dependency on an indefinite claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2 and 11, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Kotidis et al. (U.S. Patent 5,604,592).

Regarding claims 1, 2 and 11, Kotidis et al. disclose (see Figure 2) a device for determining the thickness of a sheet-like object (16), comprising: a transmitting and receiving device (18) for transmitting radiation (with 20) to the object, for receiving reflected radiation containing at least part of the radiation transmitted to the object that is reflected by the object, and for generating (with 42) a signal representing the reflected radiation; and an evaluator (12) for determining the thickness of the object, which receives the signal, wherein the evaluator comprises (see Figure 11a), a memory (100) for storing a plurality of previously determined time signal patterns or frequency spectra, which are each associated with a specific thickness of the object; and a comparator

(102) for comparing the signal (from 42) representing the reflected radiation to the time signal patterns or frequency spectra which are stored in memory and for determining the thickness of the object as a result of the comparison. Kotidis et al. also disclose (see Figure 2) the radiation is electromagnetic.

5. Claims 1, 7 and 11, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Kondo (U.S. Patent 5,101,111).

Regarding claims 1, 7 and 11, Kondo discloses (see Figure 1) a device for determining the thickness of a sheet-like object (1), comprising: a transmitting and receiving device (11, 26, 32) for transmitting radiation to the object, for receiving reflected radiation containing at least part of the radiation transmitted to the object that is reflected by the object, and for generating (with 32) a signal representing the reflected radiation; and an evaluator (100) for determining the thickness of the object, which receives the signal, wherein the evaluator comprises (see Figure 8), a memory (101) for storing a plurality of previously determined time signal patterns or frequency spectra, which are each associated with a specific thickness of the object; and a comparator (151) for comparing the signal representing the reflected radiation to the time signal patterns or frequency spectra which are stored in memory and for determining the thickness of the object as a result of the comparison. Kondo also discloses (see Figure 1) the radiation is electromagnetic and a reflector (2) as claimed.

6. Claims 1, 3-5, 7 and 11, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Case et al. (U.S. Patent 4,555,767).

Regarding claims 1, 3-5, 7 and 11, Case et al. disclose (see Figure 2) a device for determining the thickness of a sheet-like object (13), comprising: a transmitting and receiving device (16, 18) for transmitting radiation to the object, for receiving reflected radiation containing at least part of the radiation transmitted to the object that is reflected by the object, and for generating (with 18) a signal representing the reflected radiation; and an evaluator (15) for determining the thickness of the object, which receives the signal, wherein the evaluator comprises (see Figure 2), a memory (in 42) for storing a plurality of previously determined time signal patterns or frequency spectra, which are each associated with a specific thickness of the object; and a comparator (44) for comparing the signal representing the reflected radiation to the time signal patterns or frequency spectra which are stored in memory and for determining the thickness of the object as a result of the comparison. Case et al. further disclose (see column 4, lines 5-10) a Fourier transformer as claimed. Case et al. also disclose (see Figure 1) the radiation is electromagnetic and a reflector (49; see Figure 3) as claimed.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kotidis et al., Kondo or Case et al.

Regarding claim 8, Kotidis et al., Kondo and Case et al. disclose the claimed invention as set forth above. Kotidis et al., Kondo and Case et al. do not specifically disclose a fuzzy logic comparator. However, it is notoriously well known in the art that fuzzy logic comparators are more resilient to noisy signals. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a fuzzy logic comparator in the apparatus of Kotidis et al., Kondo or Case et al. to obtain more accurate results from noisy signals.

9. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Case et al.

Regarding claims 12-14 Case et al. disclose the claimed invention as set forth above. Case et al. do not specifically disclose the types of radiation as claimed. However, microwave and ultrasonic radiation are well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide such types of radiation in the apparatus of Case et al. to provide more accurate thickness determination.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (703) 308-4852. The fax phone number for the organization where the application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
October 23, 2003



Thanh X. Luu
Patent Examiner